

REMARKS

In section 6 of the Office Action, the Examiner rejected independent claims 62 and 88 under 35 U.S.C. §103(a) as being unpatentable over Schumann in view of Chen.

Schumann shows in Figure 1 an on-screen display system 100 having an OSD subsystem 102 and a video display controller 108. The OSD subsystem 102 creates pixel-based graphics. An MPEG-2 decoder 104 decodes compressed MPEG-2 data as images for viewing on a display 110, and a converter 106 converts these images into bit representations. The video display controller 108 creates the proper video signals, timing of image display, and overlay of bit mapped data over the MPEG-2 images, and sends the output signal to the display 110.

As shown in Figure 2, a DVD player 202 receives an MPEG-2 coded audio/video stream, applications, and data from a DVD, and displays still images and full motion video on a television screen or monitor 206. The DVD player 202 also receives user commands from a remote control 208. These commands may be selected by a user from menu items displayed on screen via MPEG-2 graphics. Figure 3 shows an example menu.

Figure 4 shows a set top box that processes and decodes compressed MPEG video image data. The set top box has an input port 402 for receiving data from a DVD disc 204, an input port 404 for receiving control inputs from the remote control 208, and an output port 406 for supplying an audio/video output signal, fully MPEG-2 decoded, to the television 206. The data from the DVD disc 204 is supplied from the input port 402 to an application 408. DVD video data is supplied by a de-multiplexer 410 to an MPEG-2 decoder 412, and associated audio is supplied by the de-multiplexer 410 to an audio decoder 410. The outputs of audio and MPEG-2 decoders 410 and 412 supply the audio/video output 406.

Control inputs at the input port 404 are also supplied to the application 408.

The application 408 communicates with an MPEG-2 graphics sub-system 414 that includes a memory for storing graphics images, encoded in MPEG-2 macroblocks, representing buttons, fixed text, and font characters. Also stored in the memory of the MPEG-2 graphics sub-system 414 is a list of font macroblocks representing individual letters that can be accessed by operation of the remote control 208. Base graphic images are stored in an I-frame list.

Initially, an I-frame, representing background, is sent by the MPEG-2 sub-system 414 through the demultiplexer 416 to the MPEG-2 decoder 412. In response to a control input from the remote control 208, the application sub-system 408, for example, may be instructed to "press" a button. The MPEG-2 sub-system 414 builds a P-frame using pre-compressed macroblocks to present a visual display of the button actually being pressed on the screen. The output frame is sent to the MPEG-2 decoder 412 for decoding and then to the television 206 by way of the output port 406. The graphics element is added to the background image either by image replacement or image overlay.

Thus, an I-frame is initially selected from the I-frame list. Then, the application 408 selects an appropriate MPEG-2 graphic element (in the form of a group of adjacent fully encoded macroblocks) from the P-frame list and/or the P-frame font depending upon an input from the remote control 208. Finally, the background data in the selected I-frame is replaced or overlaid with the selected MPEG-2 graphic element, and the modified image frame is passed to the MPEG-2 decoder for display.

Independent claim 62 is directed to an MPEG on-screen display coder having a buffer, and MPEG encoder, and a multiplexer. The buffer receives and buffers an MPEG transport data stream containing frames of a selected program and frames of a non-selected program. The MPEG encoder encodes frames of the selected program with an on-screen display. The multiplexer selectively passes to a digital television receiver the frames of the non-selected program, the encoded frames of the selected program, and original frames of the selected program.

Schumann does not disclose the buffer of independent claim 62 because Schumann does not disclose buffering a transport stream containing both a selected program and a non-selected program. Indeed, the MPEG-2 graphics sub-system 414 of Schumann receives only a selected program (i.e., the program from the DVD disc 204) and, therefore, cannot buffer both the selected program and a non-selected program.

The Examiner argues that Schumann inherently discloses a buffer. However, even if that were true, such a buffer would not, and could not, buffer a transport stream containing both a selected program and a non-selected program because no non-selected program is received from the DVD disc 204.

Chen discloses two input streams that are received by a digital ad insertion module 300, a main stream that contains a network television program, and an insertion stream that contains an ad to be inserted into the main stream. As shown in Figure 4, a buffer 480 buffers the main stream, a buffer 490 buffers the insertion stream, and a buffer 485 combines the main stream and the insertion stream (and null packets, if needed).

As can be seen, Chen does not disclose a buffer that buffers a transport stream that contains both a selected program and a non-selected program.

Accordingly, even if Schumann and Chen could be combined, one of ordinary skill in the art would not combine them so as to meet the buffer limitation of independent claim 62.

Therefore, for this reason, independent claim 62 is not unpatentable over Schumann in view of Chen.

Moreover, Schumann does not disclose a multiplexer that selectively passes the frames of a non-selected program, the encoded frames of a selected program, and the original frames of the selected program. Indeed, Schumann does not disclose a non-selected program and, therefore, cannot disclose or suggest multiplexing

the selected processed with the on-screen display with a non-selected program.

Chen likewise does not disclose a multiplexer that selectively passes the frames of non-selected and selected programs. Indeed, as in the case of Schumann, Chen does not disclose a non-selected program and, therefore, cannot disclose or suggest multiplexing selected and non-selected programs.

Accordingly, even if Schumann and Chen could be combined, one of ordinary skill in the art would not combine them so as to meet the multiplexer limitation of independent claim 62.

Therefore, for this reason also, independent claim 62 is not unpatentable over Schumann in view of Chen.

Furthermore, Schumann and Chen, whether taken alone or in combination, simply do not deal with the invention of independent claim 62. Neither reference discloses buffering a transport stream containing a selected program and a non-selected program, encoding the selected program with an on-screen display, and then multiplexing the non-selected program and the encoded selected program.

Accordingly, even if Schumann and Chen could be combined, one of ordinary skill in the art would not combine them so as to meet the invention of independent claim 62.

Therefore, for this further reason, independent claim 62 is not unpatentable over Schumann in view of Chen.

Independent claim 88 is directed to an MPEG on-screen display coder having a demultiplexer, an MPEG encoder, and a multiplexer. The demultiplexer demultiplexes frames of a selected video program from frames of a non-selected program in a transport stream. The MPEG encoder receives the frames of the selected program and processes these so as to encode frames with an on-screen display. The multiplexer multiplexes the encoded frames with the frames of the non-selected video program in the transport stream.

Schumann does not disclose the demultiplexer of independent claim 62 because Schumann does not disclose a transport stream containing a selected program and a non-selected program and, therefore, cannot demultiplex a selected program from a non-selected program. Indeed, the MPEG-2 graphics sub-system 414 of Schumann receives

only a selected program (i.e., the program from the DVD disc 204).

The Examiner recognizes that Schumann fails to disclose a demultiplexer. Therefore, the Examiner points to Chen and particularly column 9, lines 25-65 of Chen.

Column 9, lines 25-65 of Chen describes a processor 470 that processes the last packet before the splicing point and the first packet after the splicing point so as to provide a seamless transition that is MPEG compliant. Accordingly, at the beginning point of insertion, the processor 470 reads the last transport packet from the main stream before this point and the first packet from the insertion stream after this point, and repairs the syntax of these packets, if necessary, so that they are MPEG compliant. At the end point of insertion, the processor 470 reads the last transport packet from the insertion stream before this point and the first packet from the main stream after this point, and repairs the syntax of these packets, if necessary, so that they are MPEG compliant.

This portion of Chen then states that, in the event of a potential buffer overflow, a null packet generator inserts null packets into the output. A PSI/PID replacer 435 is provided to replace the PSI



tables and PIDs of the inserted stream with those of the main stream. As described above, the buffers 480 and 490 buffer the main and insertion streams, respectively. The buffer 485 buffers common data such as PSI and null packets.

As can be seen, there is no demultiplexing described in this portion of Chen cited by the Examiner or in any other portion of Chen, and there is no demultiplexing a selected program from a non-selected program disclosed in Chen. Indeed, there is no non-selected program in Chen. (Both the program in the main stream and the ad in the insertion stream are selected programs because both are "encoded.")

Accordingly, even if Schumann and Chen could be combined, one of ordinary skill in the art would not combine them so as to meet the demultiplexer limitation of independent claim 88.

Therefore, for this reason, independent claim 88 is not unpatentable over Schumann in view of Chen.

Moreover, Schumann does not disclose a multiplexer that multiplexes the encoded frames with the frames of the non-selected video program in the transport stream. Indeed, Schumann does not disclose a non-selected program and, therefore, cannot disclose or

suggest multiplexing the encoded selected program with a non-selected program.

Chen likewise does not disclose a multiplexer that multiplexing an encoded selected program with a non-selected program. Indeed, as in the case of Schumann, Chen does not disclose a non-selected program and, therefore, cannot disclose or suggest multiplexing selected and non-selected programs.

Accordingly, even if Schumann and Chen could be combined, one of ordinary skill in the art would not combine them so as to meet the multiplexer limitation of independent claim 88.

Therefore, for this reason also, independent claim 88 is not unpatentable over Schumann in view of Chen.

Furthermore, Schumann and Chen, whether taken alone or in combination, simply do not deal with the invention of independent claim 88. Neither reference discloses demultiplexing a transport stream containing a selected program and a non-selected program, encoding the selected program with an on-screen display, and then multiplexing the non-selected program and the encoded selected program.

Accordingly, even if Schumann and Chen could be combined, one of ordinary skill in the art would not combine them so as to meet the invention of independent claim 88.

Therefore, for this further reason, independent claim 88 is not unpatentable over Schumann in view of Chen.

Because independent claims 62 and 88 are not unpatentable over Schumann in view of Chen, dependent claims 63-84 and 89-111 are not unpatentable over Schumann in view of Chen.

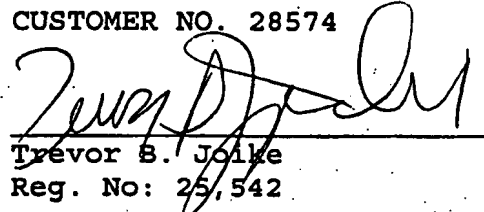
CONCLUSION

In view of the above, it is clear that the claims of the present application are patentable over the references applied by the Examiner. Accordingly, allowance of these claims and issuance of the above captioned patent application are respectfully requested.

Respectfully submitted,

SCHIFF HARDIN LLP  
6600 Sears Tower  
233 South Wacker Drive  
Chicago, Illinois 60606-6402  
(312) 258-5774  
CUSTOMER NO. 28574

By:

  
Trevor B. Jolke  
Reg. No: 25,542

December 15, 2006

# 15 DECEMBER FRIDAY

WEEK 50

WEEK 50

349th Day - 16 Days Remaining

HANUKKAH BEGINS AT SUNDOWN

C. Baker	IDS	"504,305	MB
C. Scholz	Decl.	"336,456	SHN
C. Holmstrom	Amend A	"875,130	SHN
C. Buttl	Response	"330,769	TBJ
C. Klein	Amend B	"125,746	MAR